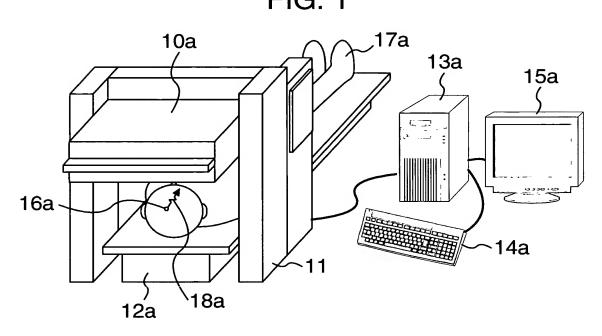
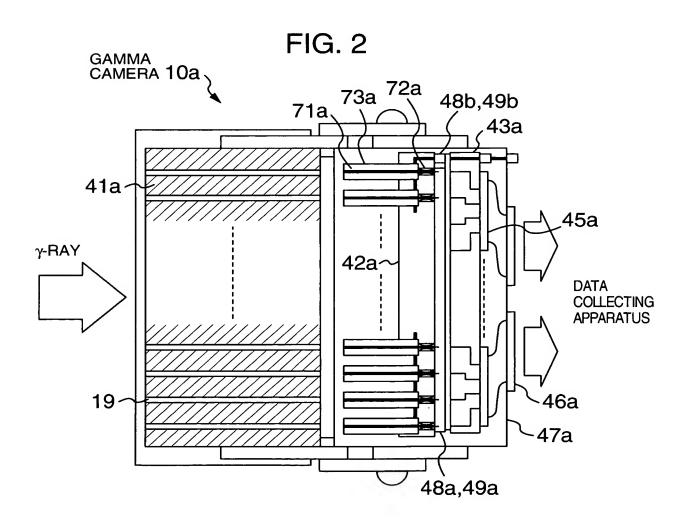
Inventor: Katsutoshi Tsuchiya, et al.

Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS

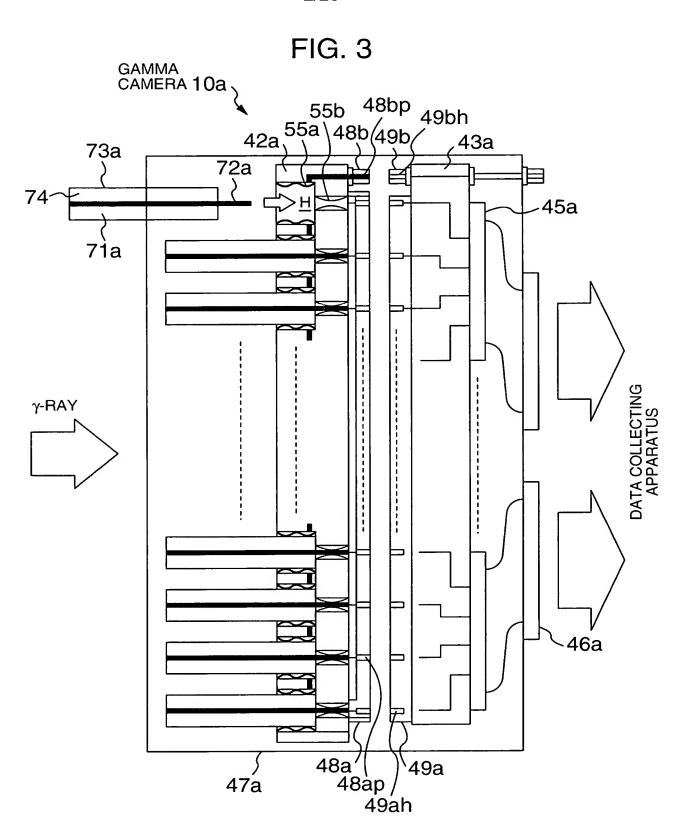
1/20 FIG. 1



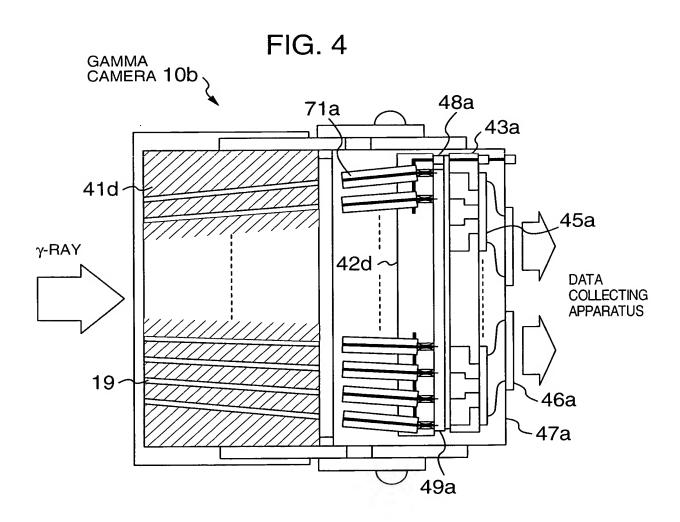


App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS

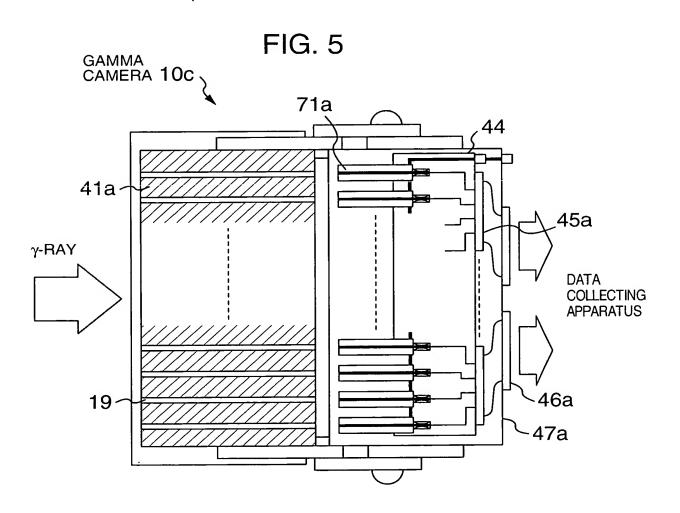
2/20



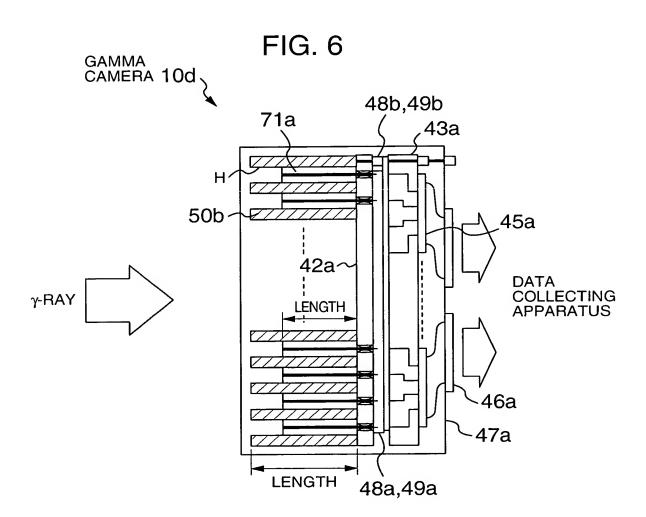
App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS



App No.: Not Yet Assigned Docket No.: A8319.0029 Inventor: Katsutoshi Tsuchiya, et al. Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS



App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS



App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS

FIG. 7

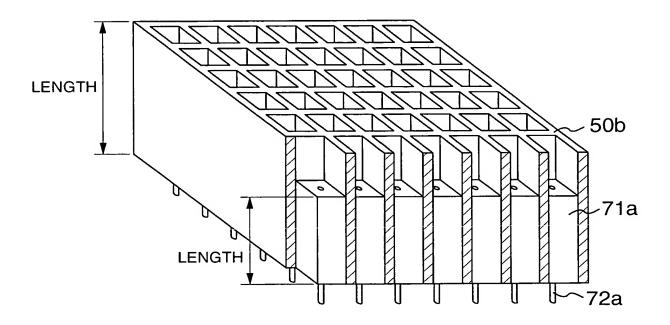
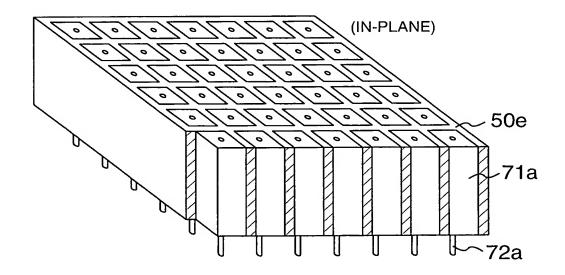


FIG. 8



App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS

FIG. 9

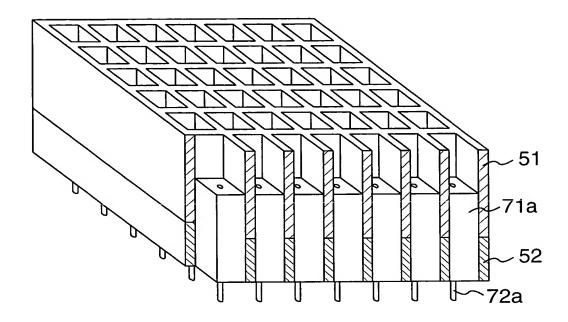
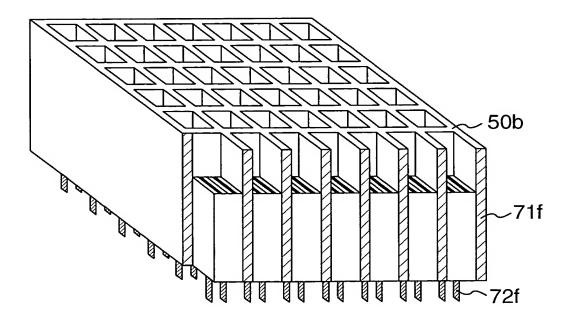


FIG. 10



App No.: Not Yet Assigned Docket No.: A8319.002 Inventor: Katsutoshi Tsuchiya, et al. Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS

8/20

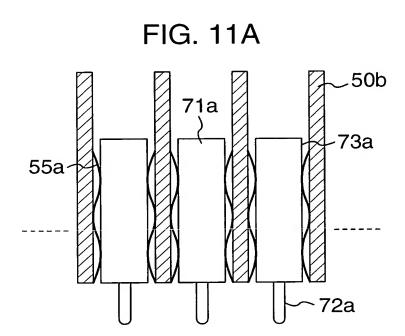
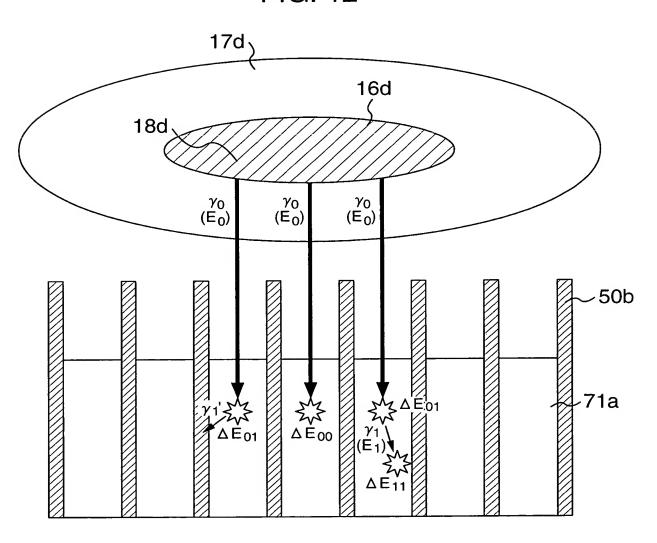


FIG. 11B \_50b 71e -73f 55a-

App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS

FIG. 12

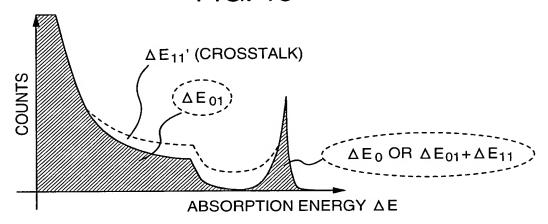


Inventor: Katsutoshi Tsuchiya, et al.

Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS

## 10/20

FIG. 13



 $\gamma_0$  (E<sub>0</sub>) : DIRECT  $\gamma$ -RAY FROM  $\gamma$ -RAY SOURCE

 $\gamma_1$  (E<sub>1</sub>): SCATTERED RADIATION IN DETECTOR

 $\gamma_1$ ' (E<sub>1</sub>) : SCATTERED RADIATION TO ADJACENT CELL (CROSSTALK)

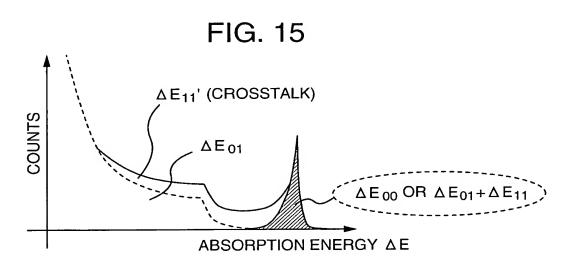
 $\Delta E_{00}$  : PHOTOELECTRIC ABSORPTION OF DIRECT  $\gamma$ -RAY (TOTAL ABSORPTION) (= $E_0$ )

 $\Delta\,\text{E}_{01}$  : ENERGY OF RECOIL ELECTRONS DUE TO COMPTON SCATTERING (=E\_0 -E\_1)

 $\Delta E_{11}$ : PHOTOELECTRIC ABSORPTION OF SCATTERED RADIATION (=E<sub>1</sub>)

ΔE<sub>11</sub>': PHOTOELECTRIC ABSORPTION OF SCATTERED RADIATION TO

ADJACENT CELL (CROSSTALK)



 $\gamma_0$  (E $_0$ ) : DIRECT  $\gamma$ -RAY FROM  $\gamma$ -RAY SOURCE

 $\gamma_1$  (E<sub>1</sub>): SCATTERED RADIATION IN DETECTOR

 $\gamma_1$ ' (E<sub>1</sub>) : SCATTERED RADIATION TO ADJACENT CELL (CROSSTALK)

 $\Delta E_{00}$ : PHOTOELECTRIC ABSORPTION OF DIRECT  $\gamma$ -RAY (TOTAL ABSORPTION) (= $E_0$ )

 $\Delta E_{01}$ : ENERGY OF RECOIL ELECTRONS DUE TO COMPTON SCATTERING (= $E_0 - E_1$ )

 $\Delta E_{11}$ : PHOTOELECTRIC ABSORPTION OF SCATTERED RADIATION (= $E_1$ )

 $\Delta E_{11}$ ': PHOTOELECTRIC ABSORPTION OF SCATTERED RADIATION TO

ADJACENT CELL (CROSSTALK)

App No.: Not Yet Assigned Docket No.: A8319.002 Inventor: Katsutoshi Tsuchiya, et al. Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS

11/20 FIG. 14

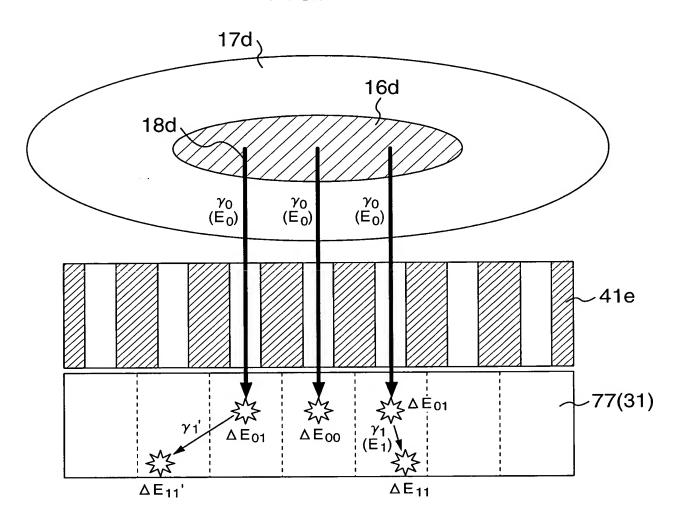
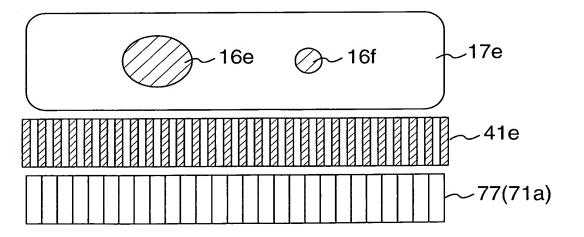


FIG. 16A



Docket No.: A8319.0025/P025 App No.: Not Yet Assigned

Inventor: Katsutoshi Tsuchiya, et al.

Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS

FIG. 16B

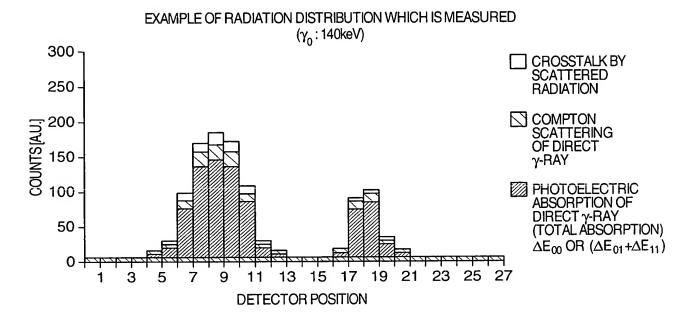
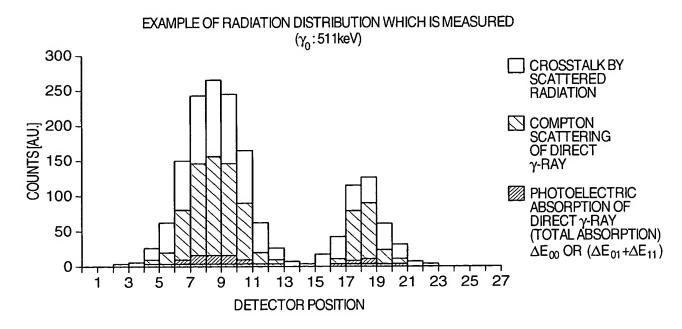
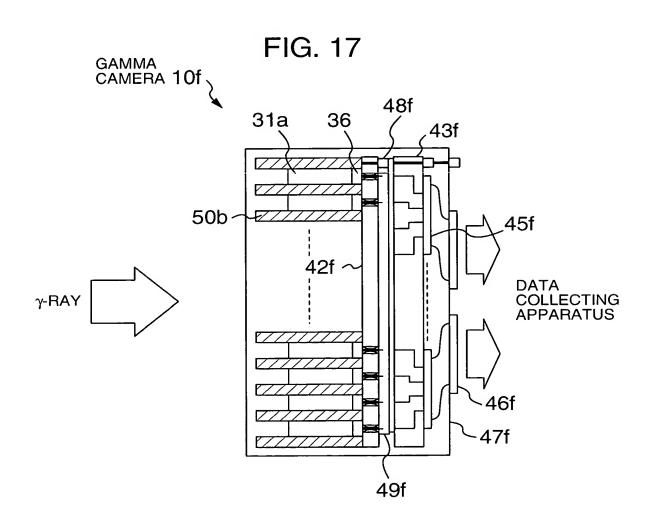


FIG. 16C



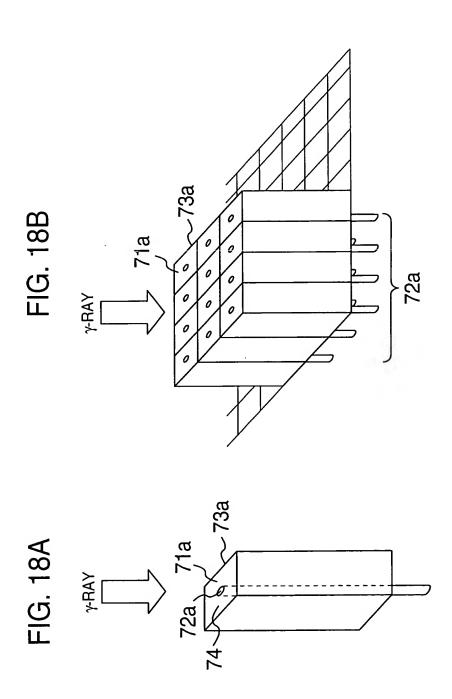
App No.: Not Yet Assigned Docket No.: A8319.0029 Inventor: Katsutoshi Tsuchiya, et al. Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS

13/20



App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS

14/20



Inventor: Katsutoshi Tsuchiya, et al.

Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS

15/20

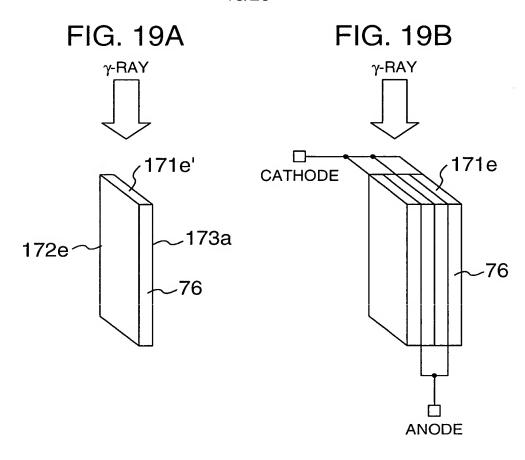


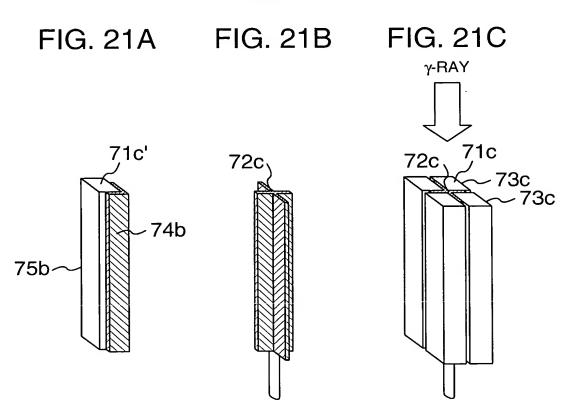
FIG. 20A FIG. 20B FIG. 20C

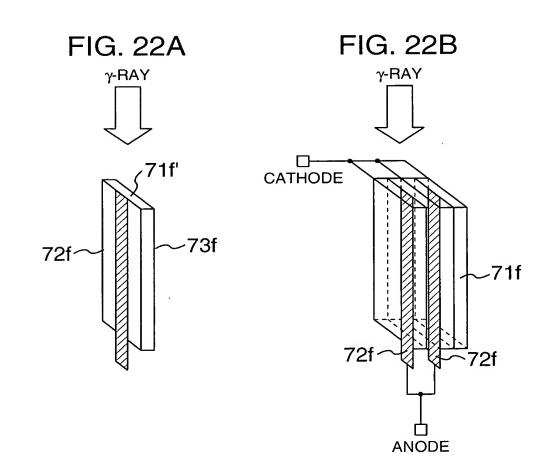
71b'
72b
75a
75a
75a
72b

Inventor: Katsutoshi Tsuchiya, et al.

Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS

16/20





App No.: Not Yet Assigned Docket No.: A8319.0029 Inventor: Katsutoshi Tsuchiya, et al. Title: RADIATION DETECTOR, RADIATION DETECTOR ELEMENT, AND RADIATION IMAGING APPARATUS

17/20

FIG. 23

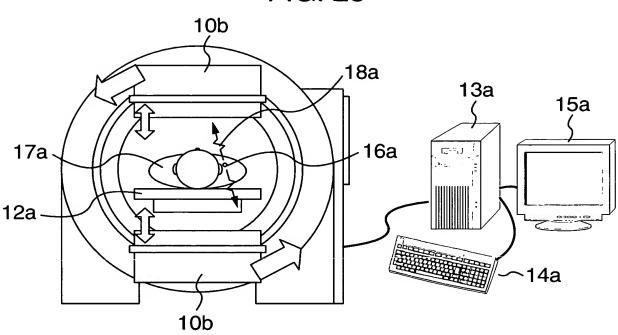
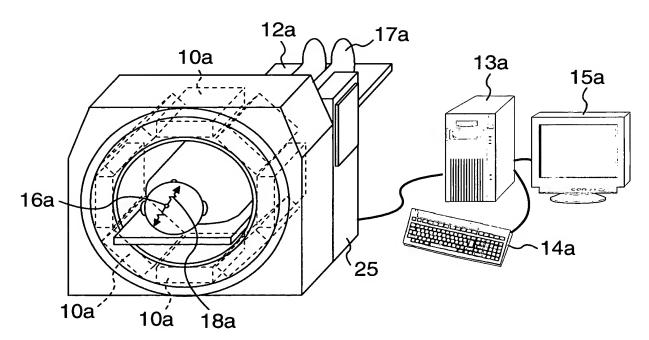
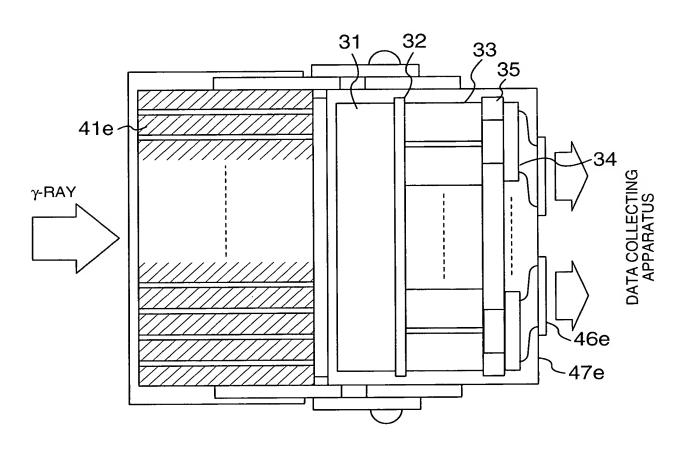


FIG. 24

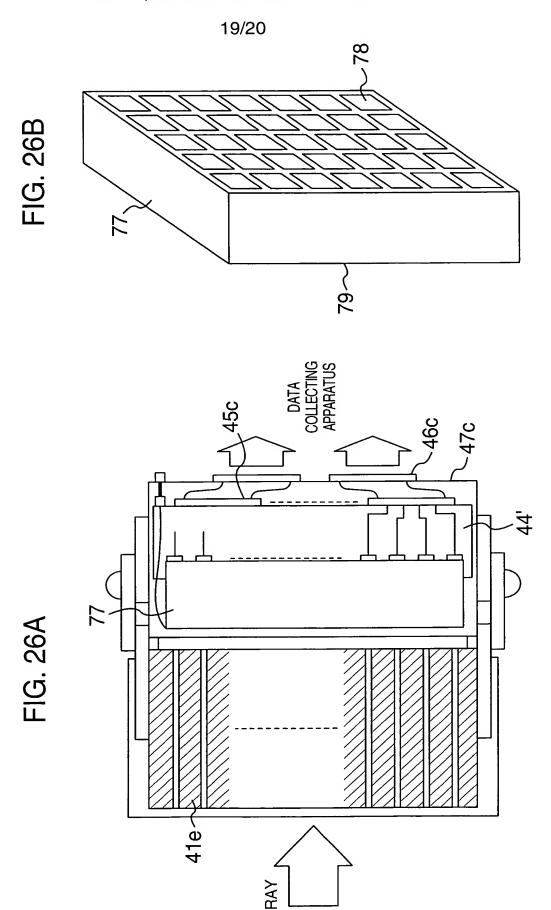


App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS

FIG. 25



App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS



App No.: Not Yet Assigned Docket No.: A8319.0029
Inventor: Katsutoshi Tsuchiya, et al.
Title: RADIATION DETECTOR, RADIATION DETECTOR
ELEMENT, AND RADIATION IMAGING APPARATUS

FIG. 27

